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10/575,524	04/12/2006	Manfred Blumberg	7701-0002WOUS	3660
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,524

Applicant(s)

BLUMBERG ET AL.

Examiner

LUU PHAM

Art Unit

2437

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/CE)
Paper No(s)/Mail Date 03/23/2007 and 04/12/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the application 10/575,524 filed on 04/12/2006.
2. Claims 1-25 have been examined and are pending.

Specification

3. **The Specification of the application is objected to** as failing to comply with 37 CRR 1.77(b). As provided in 37 CFR 1.77(b), the specification of a utility application should include sections such as 'Background of The Invention,' 'Brief Summary of The Invention,' 'Brief Description of The Several View of The Drawing(s),' and 'Detailed Description of The Invention.' Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. The instant application does not include any section as mentioned above. Appropriate correction is required.

Claim Objections

4. **Claims 2-6 are objected to** because of the informalities described as following:
 - **Regarding claims 2-6**, article "*The*" should be added at the beginning of the claims. The claims should be written as "*The machine tool (2, 2a) protected against improper activation according to claim ...*"
 - **Regarding claim 7**, article "*A*" should be added at the beginning of the claim. The claim should be written as "*A method of avoiding ...*"

- **Regarding claims 8-9**, article *“The”* should be added at beginning of the claims. The claims should be written as *“The method of avoiding improper machine activation ... according to claim 7.”*

- **Regarding claims 10-14, 17-18, and 20-25**, article *“A”* should be added at beginning of the claims.

- **Regarding claims 15-16 and 19**, article *“The”* should be added at beginning of the claims.

Appropriate corrections are required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 7-9 and 17 are rejected under 35 U.S.C. 101** as failing to point out which statutory class the claimed subject matter belongs to.

- **Regarding claims 7 and 17**, claim 7 claims a method of avoiding improper machine activation and claim 17 claims a method of generating machine control parameters; however there is no mention of essential steps of the claimed methods. The claims mainly recite components/modules of a system. It is unclear as to which statutory class the claimed subject matter belongs to.

- **Regarding claim 8-9**, claims 8-9 are also rejected under 35 U.S.C. 101 as failing to point out which statutory class the claim subject matter belongs to for the same reason.
7. **Claims 11-25 are rejected under 35 U.S.C. 101** as being directed to non-statutory subject matter.
- **Regarding claims 11-13 and 21-22**, claims 11-13 and 21-22 are rejected under 35 U.S.C. 101 as non-statutory, because the claimed invention is implemented as functional descriptive material *per se*. “A computer program product” recites in the claim is functional descriptive material *per se*. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). In this case, “a program” recites in the claims is not recorded on any computer-readable medium. Therefore, the claims are non-statutory.

- **Regarding claims 12 and 21**, claims 12 and 21 recite the limitation “*computer readable medium*,” In light of the specification, paragraphs [0011] and [0023], the aforementioned “*computer readable medium*” includes “*data carrier*,” and “*electronic carrier signal*,” which are non-statutory subject matter. Therefore, the claims are directed to non-statutory subject matter.

- **Regarding claims 13-18, and 22**, claims 13-18 and 22 recite the limitation “*electronic carrier signal*,” “*electronic carrier signal*” is non-statutory subject matter. Therefore, the claims are directed to non-statutory subject matter.

- **Regarding claims 14-18**, claims 14-18 recite the limitation “*data carrier or electronic carrier signal*,” “*data carrier*” and “*electronic carrier signal*” are non-statutory subject matter. Therefore, the claims are directed to non-statutory subject matter.

- **Regarding claim 18**, although the preamble of the claim recites “*Computer system*,” the body of the claim does not positively recite any elements of hardware. The body of the claim recites “*mean for reading in machine control parameters*” and “*an improper-activation safety module*.” In light of the specification, the aforementioned “*means for*” and “*module*” are implemented in software, which is non-statutory subject matter. Therefore, the claim is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. **Claims 7-9 and 17 are rejected under 35 U.S.C. 112, second paragraph**, as failing to point out which statutory class the claimed subject matter belongs to.

- **Regarding claims 7 and 17**, claim 7 claims a method of avoiding improper machine activation and claim 17 claims a method of generating machine control parameters. However there is no mention of essential steps of the claimed methods. The claims mainly recite components/modules of a system. It is unclear as to which statutory class the claimed subject matter belongs to.

- **Regarding claim 8-9**, claims 8-9 are also rejected under 35 U.S.C. 101 as failing to point out which statutory class the claim subject matter belongs to for the same reason.

10. **Claims 1-6 and 18-19 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- **Regarding claims 1 and 18**, claims 1 and 18 have been found invalid as indefinite because the claims recite “*means for*” languages and there is no structure disclosed in the specification. “*If there is no structure in the specification corresponding to*

the means-plus-function limitation in the claims, the claims will be found invalid as indefinite." *Biomedino, LLC vs. Waters Technology Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007)

- **Regarding claims 2-6 and 19**, claims 2-6 and 19 are dependent on either claim 1 or claim 18, and therefore inherit the 35 U.S.C 112, second paragraph issues of the independent claim.
- **Regarding claims 1, 14, and 17-18**, claims 1, 14, and 17-18 recite the limitation "*and/or.*" This is unclear whether the claim implies "*and*" or "*or.*" For the purpose of applying art, the Examiner interprets the aforementioned limitations to mean "*and.*"
- **Regarding claims 23-25**, claims 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims include only preambles but do not include transitional phrases and claim bodies.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. **Claims 1-25 are rejected under 35 U.S.C. 102(e)** as being anticipated by Ginter et al., (hereinafter “Ginter”), U.S. Patent Application Publication No. 2003/0163431, filed on September 10, 2001.

- **Regarding claim 1**, Ginter discloses a machine tool protected against improper activation (*pars.* 0439, 0502, 0699, 2535-2541; *Figs.* 7-9 and 11; *SPUs 500 may be used to perform all secure processing for VDE 100*), comprising:

- an open-loop and/or closed-loop control device for the activation of machine functions, preferably machine axes (σ_1 , σ_2) (*pars.* 0488-0495; *Figs.* 7-9 and 11; ‘right operating system’ 602, including SPU 500, VDE 604, and other operating system function 606, is used to control electronic appliance 600; the appliance 600 may be numerically controlled machines including machine tools and the like),

- means for reading in machine control parameters for the open-loop and/or closed-loop control device from a data carrier or electronic carrier signal (*pars.* 0495-0489; 0560-0565; *Figs.* 7-9 and 11; a VDE control program may be, at least in part, loaded into the memory and communicated to and decrypted within SPU 500 prior to execution), and

- an improper-activation safety module (*pars.* 0439, 0502, 0699, 2535-2541; *Figs.* 7-9 and 11; *SPUs 500 may be used to perform all secure processing for VDE 100*), preferably an improper-activation safety software module, which decodes the machine control parameters again that are intended for the machine tool and are encoded by means of an asymmetric encryption method, using an encryption key which is assigned to the machine tool and provided for the encryption, with the aid of a decryption key which is

likewise assigned to the machine tool, is different from the encryption key and is provided for the decryption, and which module enables the machine control parameters for controlling the machine tool only in the case of successful decryption (*pars. 0173, 0525, 0534, and 1619; Figs. 7-9 and 11; the public/private key encryption/decryption circuit is used principally as an aspect of secure communications between an SPU 500 and VDE administrators, or other electronic appliances 600, that is between VDE secure subsystems*).

- **Regarding claim 2**, Ginter discloses machine tool protected against improper activation according to claim 1, characterized in that the machine tool has a reading module, preferably a chip card reader (*pars. 0682-0686*), which is intended for receiving a decryption module, preferably a chip card, which has the decryption key, with the aid of which the improper-activation safety module decodes the encoded machine control parameters, and the decryption module is set up in such a way that only the improper-activation safety module can read out the decryption key from the module (*pars. 0073, 0118-0121, 0169, 0225, and 0684; Figs. 9A-9B; encrypt/decrypt engine 522*).

- **Regarding claim 3**, Ginter discloses machine tool protected against improper activation according to claim 1, characterized in that the improper-activation safety module determines the successful decryption of the machine control parameters after the decryption on the basis of finding a machine identification assigned to the machine tool (*pars. 1552, 1636, 1891-1910; Figs. 69*).

- **Regarding claim 4**, Ginter discloses machine tool protected against improper activation according to claim 1, characterized in that the improper-activation safety module enables various functions of the machine tool for control by the machine control parameters in dependence on the decryption key originating from a plurality of decryption keys assigned to the machine tool (*pars. 0550, 0592, 0780, 1670, 1895, and 2476*).

- **Regarding claim 5**, Ginter discloses machine tool protected against improper activation according to claim 1, characterized in that the improper-activation safety module determines the successful decryption of the machine control parameters after decryption also on the basis of finding a signature of a unit authorized for activating the machine tool (*pars. 0599, 1909-1910, 1920-1921, and 1958-1960; Fig. 69K, decision block 3564*).

- **Regarding claim 6**, Ginter discloses machine tool protected against improper activation according to claim 5, characterized in that the improper-activation safety module enables various functions of the machine tool for control by the machine control parameters in dependence on which signature it finds after decryption from a plurality of signatures (*pars. 0599, 1868-1870, 1909-1910, and 1958-1960*).

- **Regarding claim 7**, Ginter discloses method of avoiding improper machine activation by machine control parameters of a machine tool (*pars. 0439, 0502, 0699, 2535-2541; Figs. 7-9 and 11; SPUs 500 may be used to perform all secure processing for VDE 100*), characterized in that the machine control parameters intended for the machine tool are encoded by means of an asymmetric encryption method with the aid of an encryption key which is assigned to the machine tool and is provided for the encryption, so that the

machine tool can decode the machine control parameters again with the aid of a decryption key which is likewise assigned to it, is different from the encryption key and is provided for the decryption (*pars. 0173, 0525, 0534, and 1619; Figs. 7-9 and 11; the public/private key encryption/decryption circuit is used principally as an aspect of secure communications between an SPU 500 and VDE administrators, or other electronic appliances 600, that is between VDE secure subsystems*).

- **Regarding claim 8**, Ginter discloses a method of avoiding improper machine activation by machine control parameters of a machine tool according to claim 7, characterized in that a machine identification assigned to the machine is added to the machine control parameters before the encryption (*pars. 0197, 1010, 1049, 1865, and 2050; a unique device ID is loaded into PPE 650*), so that, when it decodes the machine control parameters again with the aid of its assigned private decryption key, the machine tool can determine on the basis of the fact that these contain the machine identification assigned to it that the parameters concerned are machine control data for its activation (*pars. 0197, 1010, 1049, 1865, and 2050; a unique device ID is loaded into PPE 650*).

- **Regarding claim 9**, Ginter discloses method of avoiding improper machine activation by machine control parameters of a machine tool according to claim 7, characterized in that the machine control parameters intended for the machine tool are first encoded by means of a private decryption key, assigned to the sender of the machine control parameters (*pars. 0173, 0525, 0534, 1619, and 1815-1820; Figs. 7-9 and 11; the public/private key encryption/decryption circuit is used principally as an aspect of secure*

communications between an SPU 500 and other electronic appliances 600)), and are provided with a sender identification of this sender, and, signed by the sender in this way, are only encoded with the aid of the encryption key that is assigned to the machine tool and known for the encryption (pars. 0173, 0525, 0534, 1619, and 1815-1820; Figs. 7-9 and 11; the public/private key encryption/decryption circuit is used principally as an aspect of secure communications between an SPU 500 and other electronic appliances 600).

- **Regarding claims 10-13**, claims 10-13 are similar in scope to claim 7, and are therefore rejected under similar rationale.
- **Regarding claim 14**, claim 14 is similar in scope to claim 1, and is therefore rejected under similar rationale.
- **Regarding claims 15-16**, claims 15-16 is similar in scope to claims 8-9 respectively, and are therefore rejected under similar rationale.
- **Regarding claims 17-18**, claims 17-18 are similar scope to claim 14, and are therefore rejected under similar rationale.
- **Regarding claim 19**, claim 19 is similar scope to claim 2, and is therefore rejected under similar rationale.
- **Regarding claims 20-22**, claims 20-22 are similar scope to claim 17, and are therefore rejected under similar rationale.

- **Regarding claim 23**, is similar scope to claim 18, and is therefore rejected under similar rationale.

- **Regarding claims 24-25**, claims 24-25 are similar scope to claims 20-21 respectively, and are therefore rejected under similar rationale.

Examiner Notes

13. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Publication No. US 2001/0020228 by Cantu et al.

U.S. Patent Publication No. US 4,405,829 to Rivest et al.

U.S. Patent Publication No. US 4,981,402 to Krenzer et al.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luu Pham whose telephone number is 571-270-5002. The examiner can normally be reached on Monday through Friday, 7:30 AM - 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel L. Moise can be reached on 571-272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Luu Pham/
Examiner, Art Unit 2437

/Emmanuel L. Moise/
Supervisory Patent Examiner, Art Unit 2437